IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tony Gioutsos

Group Art Unit: 2617

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Title: VEHICLE PASSENGER WEIGHT SENSOR

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CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown with sufficient postage as First Class Mail in an envelope addressed to the: Assistant Commissioner for Patents, Washington, DC 20231.

30 April 1997
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Assistant Commissioner for Patents
Washington, DC 20231

DISCLOSURE STATEMENT

Applicant wishes to bring the publications described below to the attention of the Examiner. Copies of the cited publications are being submitted herewith. A PTO-1449 form listing the cited publications is being submitted herewith.

Kwun et al., "Nondestructive measurement of stress in ferromagnetic steels using harmonic analysis of induced voltage", NDC INTERNATIONAL, Volume 20, Number 3, June 1987 relates to a method for nondestructively measuring mechanical stresses in ferromagnetic steels by applying a sinusoidal magnetic field to the materials and analyzing the harmonic content of the resulting voltage induced in a sensing coil.

US 5,232,243 and US 5,494,311 teach a seat occupant sensor that is a piezoelectric film which is rigidly mounted to a substantially inflexible bottom portion of the seat. A plurality of sensing elements are arranged in rows and columns forming an array.

US 5,454,591 teaches the use of this sensor to determine if a vehicle seat is occupied by an occupant weighing up to about 18.2 kilograms (40 pounds) or more than about 18.2 kilograms (40 pounds) and send an appropriate signal to a safety device control unit.

US 5,474,327 teaches a seat occupant presence, weight and position sensor system wherein a plurality of sensors are located in the seat base just beneath the seat cover and some pressure is exerted on the sensors by the seat cover. The preferred sensors are mounted between polymer sheets and include a pair of conductive electrodes about 2.54 centimeters (1 inch) in diameter separated by carbon layers such that resistance between electrodes decreases as pressure increases.

US 5,161,820 teaches a seat occupant sensor which is a switch, preferably a flat mat-like contact switch wherein two contact layers are separated by an intermediate elastically deformable, electrically conductive layer. The contact switch is mechanically activated when the seat occupant compresses the intermediate layer and completes a conductive pathway for the switching circuit. The use of a simple physical contact switch or a condenser-type switch is also disclosed. However, the seat structure incorporating any of these switches is not shown in the drawings or described in the specification. The seat occupant sensor taught in this patent employs sensors located both in the seat and in the floor in front of the seat.

US 4,678,058 teaches a vehicle seat switch assembly including a generally C-shaped spring located underneath the seat cushion. The end portions of the spring are displaced laterally when the spring is depressed when the seat is occupied. The lateral displacement of the spring ends pulls a switch plunger to close the switch.

US 5,413,378 and US 5,439,249 teach the use of an occupant weight sensor located in or on a structure that includes a seat cushion. The exact structure and operation of the occupant weight sensor is not disclosed in either of these patents.

US 5,466,001 teaches the use of sensors embedded in a seat cushion and seat back to sense occupant presence, but the structure of the sensors is not disclosed. US 5,109,945 also teaches the use of a seat switch to detect a seat occupant but does not disclose the structure of the switch or the manner of incorporating the switch into the seat.

US 5,481,078 teaches a set occupant sensor wherein the seat rails pivot about their

forward end against leaf springs designed to support the seat weight plus a known fraction of the occupant's weight so that the rear of the seat is raised when the seat is unoccupied. When the seat is occupied, the rear of the seat moves down and an electronic sensor detects seat position to provide a position signal. US 4,655,313, US 4,361,741 and US 4,509,614 also teach a vehicle seat switch used with a seat which pivots relative to the front of the seat cushion.

US 5,120,980 teaches a foam seat cushion confining wire mesh electrical switch closing contacts.

US 5,164,709 teaches a seat occupant sensor which is a lateral-force-sensitive cable laid in a meandering pattern foamed into the seat cushion.

US 4,806,713 teaches a seat-contact switch for generating a "seat occupied" signal when a seat suspension approaches a seat frame as a result of seat loading. An articulatable device is fastened on one end to the seat suspension and on the other end to the seat frame.

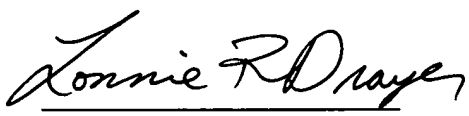
US 4,607,199 teaches the use of a seat switch in conjunction with a microprocessor to disable operation of a vehicle if the seat occupant is out of position for a given period of time. The switch structure and manner of incorporating the switch into the seat are not disclosed.

EP 0 728 636 A1 teaches the use of a switch sensor switch disposed in a seat base but does not disclose the switch structure and manner of incorporating the switch into the seat.

US 4,633,237 teaches an occupant sensor for a hospital bed including a plurality of sensors defining interstices of a matrix of such sensors. The matrix is woven into a mat for placement on a bed in which a patient is confined.

US 5,612,876 teaches a seat occupancy sensor having a front sensing region and a rear sensing region which can be evaluated separately. The inhibiting of an airbag release can be provided in the case of an incorrect sitting position.

Respectfully submitted,



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